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EXAMINER

BIAGINI, CHRISTOPHER D

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2442

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ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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lhptoms@leehayes.com

Office Action Summary	Application No. 10/632,767	Applicant(s) GRIGOROVITCH ET AL.	
	Examiner Christopher Biagini	Art Unit 2442	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 September 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4,6-12,14-18,20-22 and 24-36 is/are pending in the application.
- 4a) Of the above claim(s) 26-35 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4, 6-12, 14-18, 20-22, 24, 25, 36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>12/30/2009</u> . | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

This communication is in response to the amendment filed September 29, 2009. Claims 1, 2, 4, 6-12, 14-18, 20-22, and 24-36 are pending, claims 3, 5, 13, 19, and 23 having been cancelled. Claims 26-35 are withdrawn. Claims 1, 7, 11, 21, 22, 24, 25, and 36 are amended.

Information Disclosure Statement

The information disclosure statement filed December 30, 2009 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of Document No. EP0123622 (A2). It has been placed in the application file, but Document No. EP0123622 (A2) has not been considered. See MPEP 609.04(a)(III), which states in relevant part:

If a complete translation of the information into English is submitted with the non-English language information, no concise explanation is required. An English-language equivalent application may be submitted to fulfill this requirement if it is, in fact, a translation of a foreign language application being listed in an information disclosure statement. There is no requirement for the translation to be verified. Submission of an English language abstract of a reference may fulfill the requirement for a concise explanation. Where the information listed is not in the English language, but was cited in a search report or other action by a foreign patent office in a counterpart foreign application, the requirement for a concise explanation of relevance can be satisfied by submitting an English-language version of the search report or action which indicates the degree of relevance found by the foreign office. This may be an explanation of which portion of the reference is particularly relevant, to which claims it applies, or merely an "X", "Y", or "A" indication on a search report.

Response to Arguments

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Applicant's amendments to the claims are sufficient to overcome the rejections of claims 1-4, 11-13, 17, 21, 25, and 36 under the judicially created doctrine of obviousness-type double patenting; and the rejections of claims 11 and 14-25 under 35 USC 101.

Applicant's arguments with respect to the rejections of claims 1-3, 7, 11-13, 17, 21, 25, and 36 under 35 USC 102(e) over Chou have been fully considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments with respect to the rejections of claims 1-4, 11-13, 21, 25, and 36 under 35 USC 102(e) over Lee have been fully considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments with respect to the rejections of claims 5-10, 14-20, and 22-24 under 35 USC 103(a) over Lee in view of Pinckney have been fully considered but are moot in view of the new ground(s) of rejection. However, regarding Applicant's assertion that "Pinckney lacks at least the non-contiguous portions as recited in the claim as amended," the Examiner respectfully disagrees. Pinckney clearly shows storing non-contiguous portions of a file in a media cache stream. See, for example, paragraph [0058], as well as Fig. 10, which depicts non-contiguous portions 106a and 106b.

Furthermore, even assuming, *arguendo*, that the Applicant's apparent interpretation of Pinckney is correct, the examiner wishes to note that the claims, even as amended, do not require "empty" space between the non-contiguous portions. In other words, the claims do not prohibit the presence of an intervening portion between the non-contiguous portions.

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Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 4, 6-12, 14-18, 20-22, 24, 25, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thompson et al. (US Pub. No. 2003/0099364, hereinafter "Thompson") in view of Pinckney, III et al. (US Pub. No. 2002/0161911, hereinafter "Pinckney").

Regarding claim 1, Thompson shows a method comprising:

- receiving, at a client device for presentation to a user (comprising the device which runs content processing program 124), a plurality of temporally non-contiguous portions of a streaming media file (comprising segments of a content object file: see [0013]-[0015]), wherein:
 - temporally non-contiguous portions consist of portions of a received streaming media file that are not adjacent to one another in terms of the temporal presentation of their content during playback (comprising the multiple "discontinuous portions" selected for playback by the user: see [0020]); and
 - at least a first and a second of the temporally non-contiguous portions of the received streaming media file being encoded at different bit rates (see

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[0029]), wherein the first and second non-contiguous portions comprise video data (for example, MPEG video data: see [0021]); and

- storing the plurality of temporally non-contiguous portions of the received streaming media file in a single cache file on the client device (comprising a buffer: see [0032]).

Thompson does not explicitly show:

- a third non-contiguous portion comprising audio data (insofar as Thompson only shows various portions of “video” files, and does not explicitly indicate that the “video” files also include audio data);
- creating a plurality of media cache streams, each media cache stream being associated with a unique bit rate;
- storing the first non-contiguous portion in a media cache stream associated with the bit rate of the first non-contiguous portion;
- storing the second non-contiguous portion in a media cache stream associated with the bit rate of the second non-contiguous portion; and
- storing the media cache streams in the cache file.

Pinckney shows:

- that video files include audio data (see [0026], [0032], and [0062]);
- creating a plurality of media cache streams (comprising the data structures which hold the “shredded” content files), each media cache stream being associated with a unique bit rate (see Figs. 9-10 and [0055]);

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- storing a first non-contiguous portion in a media cache stream associated with the bit rate of the portion (see [0055] and [0058]);
- storing a second non-contiguous portion in a media cache stream associated with the bit rate of the second non-contiguous portion (see [0055]-[0058]); and
- storing the media cache streams in a cache file (see [0058]).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Thompson to arrange received multimedia in media cache streams as taught by Pinckney in order to provide for efficient management of the cache space (see Pinckney, [0057]).

Regarding claim 2, the combination further shows wherein the first and second non-contiguous portions comprise video data (for example, MPEG video data: see [0021] of Thompson).

Regarding claim 4, the combination further shows wherein the cache file is stored in non-volatile memory (comprising disk memory: see Pinckney, [0026]-[0027]).

Regarding claim 6, the combination does not explicitly show "wherein the act of storing comprises: creating a first media cache stream associated with the bit rate of the first non-contiguous portion; storing the first non-contiguous portion in a media cache segment of the first media segment stream; creating a second media cache stream associated with the bit rate of the second non-contiguous portion; storing the second non-contiguous portion in a media cache

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segment of the second media cache stream; creating a byte cache index segment and a byte cache data segment for each media cache segment; and storing the byte cache index segments and the byte cache data segments in the cache file."

Pinckney shows:

- creating a first media cache stream associated with the bit rate of a first non-contiguous portion (see Figs. 9-10 and [0055]);
- storing the first non-contiguous portion in a media cache segment of the first media segment stream (see [0055] and [0058]);
- creating a second media cache stream associated with the bit rate of a second non-contiguous portion (see Figs. 9-10 and [0055]);
- storing the second non-contiguous portion in a media cache segment of the second media cache stream (see [0055] and [0058]);
- creating a byte cache index segment (comprising a stream header) and a byte cache data segment (comprising a presentation unit) for each media cache segment (see Figs. 9-10 and [0055]); and
- storing the byte cache index segments and the byte cache data segments in the cache file (see [0058]).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Lee with the teachings of Pinckney in order to further improve the performance of the system (see Pinckey, [0054]).

Regarding claim 7, Thompson shows a method comprising:

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- receiving a plurality of temporally non-contiguous portions of a streaming media file (comprising segments of a content object file: see [0013]-[0015]), wherein:
 - temporally non-contiguous portions consist of portions of a received streaming media file that are not adjacent to one another in terms of the temporal presentation of their content during playback (comprising the multiple "discontinuous portions" selected for playback by the user: see [0020]);
 - each temporally non-contiguous portion being associated with a unique temporal section of the streaming media file (e.g., the temporal section to which the user navigated);
- storing each temporally non-contiguous portion (see [0029] and [0032]).

Thompson does not explicitly show:

- creating a plurality of media cache streams, each media cache stream being associated with a unique bit rate; and
- storing each portion in a media cache segment of a media cache stream associated with a bit rate at which the portion was encoded, at least two of the portions being stored in media cache segments in different media cache streams.

Pinkey shows:

- creating a plurality of media cache streams, each media cache stream being associated with a unique bit rate (see [0055]); and
- storing each portion in a media cache segment of a media cache stream associated with a bit rate at which the portion was encoded, at least two of the portions being

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stored in media cache segments in different media cache streams (see Figs. 9-10 and [0055]-[0058]).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Lee with the teachings of Pinckney in order to provide for efficient management of the cache space (see Pinckey, [0057]).

Regarding claim 8, the combination shows the limitations of claim 7 as applied above, and further shows wherein the act of storing comprises: creating a byte cache index segment (comprising a stream header) and a byte cache data segment (comprising a presentation unit) for each media cache segment; and storing the byte cache index segments and the byte cache data segments in the cache file (see Pinckey, [0055]).

Regarding claim 9, the combination shows the limitations of claim 7 as applied above, and further shows wherein the act of storing comprises: creating a byte cache index segment (comprising a stream header) and a byte cache data segment (comprising a presentation unit) for each segment; and serializing the byte cache index segments and the byte cache data segments in the cache file (comprising storing them in order: see Pinckey, [0055]).

Regarding claim 10, the combination further shows wherein the cache file is stored in a non-volatile manner (comprising storing it in disk memory: see Pinckey, [0026]-[0027]).

Regarding claim 11, Thompson shows a system comprising:

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- a data storage module (comprising a buffer: see [0032]);
- a caching module (comprising the module which populates the buffer) operable to receive and store a plurality of temporally non-contiguous portions of a streaming media file (see [0032]), in the data storage module, two or more of the plurality of temporally non-contiguous portions being encoded at different bit rates (see [0029]); wherein:
- the caching module comprises processor executable code (implicitly disclosed as a property of any software module).

Thompson does not explicitly show:

- a processor;
- that the streaming media file includes different data types;
- that the media is stored in a cache file in the data storage module; and
- that the caching module is operable to:
- create a plurality of media cache streams, each media cache stream being associated with a streamed media data type and a streamed media encoded bit rate; and
- store each temporally non-contiguous portion of received streamed media data as a media cache segment in a media cache stream associated with the streamed media data type and a streamed media encoded bit rate of the temporally non-contiguous portion;
- parse each media cache segment into a byte cache index segment and a byte cache data segment; and

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- store the byte cache index segments and the byte cache data segments in the cache file.

Pinckney shows a processor (see [0064]) and wherein a streaming media file includes different data types (see see [0026], [0032], and [0062]); and a caching module is operable to: create a plurality of media cache streams (comprising the data structures which hold the “shredded” content files), each media cache stream being associated with a streamed media data type and a streamed media encoded bit rate (see [0055] and note that the criteria by which the data structures include bit rate and that all the cache streams are associated the “video” data type); and store each temporally non-contiguous portion of received streamed media data as a media cache segment in a media cache stream associated with the streamed media data type and a streamed media encoded bit rate of the temporally non-contiguous portion (see Fig. 10 and [0058]); parse each media cache segment into a byte cache index segment (comprising a stream header) and a byte cache data segment (comprising a presentation unit); and store the byte cache index segments and the byte cache data segments in the cache file. See [0055]-[0058].

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Thompson to arrange received multimedia in media cache streams as taught by Pinckney in order to provide for efficient management of the cache space (see Pinckey, [0057]).

Regarding claim 12, the combination further shows wherein the data storage module comprises a non-volatile data storage device (comprising a disk memory: see Pinckey, [0026]-[0027]).

Regarding claim 14, the combination shows the limitations of claim 11 as applied above, and further shows wherein the caching module comprises: a media cache module operable to store each of the plurality of temporally non-contiguous portions as a media cache segment in one of a plurality of media cache streams; and parse each media cache segment into a byte cache index segment and a byte cache data segment (see Pinkey, [0055]).

Regarding claim 15, the combination further shows a media cache module operable to: store each of the plurality of temporally non-contiguous portions as a media cache segment in one of a plurality of media cache streams, each media cache stream being associated with a different bit rate; and parse each media cache segment into a byte cache index segment and a byte cache data segment; and a byte cache module operable to store the byte cache index segments and the byte cache data segments in the cache file. See Figs. 9-10 and [0055]-[0058] of Pinkey.

Regarding claim 16, the combination further shows a media cache module operable to: create a plurality of media cache streams, each media cache stream being associated with a unique bit rate; and store each temporally non-contiguous portion as a media cache segment in a media cache stream associated with a bite rate at which the temporally non- contiguous portion was encoded; and parse each media cache segment into a byte cache index segment and a byte cache data segment; and a byte cache module operable to: store the byte cache index segments and the byte cache data segments in the cache file. See Figs. 9-10 and [0055]-[0058] of Pinkey.

Regarding claim 17, the combination further shows wherein temporally non-contiguous portions include a first video portion encoded at a first bit rate, a second video portion encoded at a second bit rate (see [0055] of Pinkey and [0029] of Thompson), and an audio portion (comprising an audio track: see [0055] of Pinkey), and wherein the first video portion, the second video portion, and the audio portion are stored in different media cache streams (see Figs. 9-10 and [0055]-[0058] of Pinkey).

Regarding claim 18, the combination further shows wherein the streaming media file includes different data types (comprising different resolutions and audio tracks: see [0054]-[0055] of Pinkey); and the caching module is operable to: create a plurality of media cache streams, each media cache stream being associated with a streamed media data type and a streamed media encoded bit rate (note that the data files are shredded into “all possible combinations of the component streams”: see [0054] of Pinkey); store each temporally non-contiguous portion of received streamed media data in a media cache stream associated with the streamed media data type and a streamed media encoded bit rate of the temporally non-contiguous portion (see Figs. 9-10 and [0055] of Pinkey); and store the media cache streams in the cache file (see [0057]-[0058] of Pinkey).

Regarding claim 20, the combination further shows the caching module operable to: store each of the plurality of temporally non-contiguous portions as a media cache segment in one of a plurality of media cache streams (see [0055] of Pinkey); create a segment/stream map

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specifying the media cache segment and stream in which each temporally non-contiguous portion is stored (see [0063] of Pinckey); and parse each media cache segment into a byte cache index segment and a byte cache data segment (see [0055] of Pinckey).

Regarding claim 21, Thompson shows a computer-readable storage medium (implicitly disclosed as being part of any software-implemented system) having computer-executable instructions for performing acts comprising:

- storing (see [0032]), at a client for presentation to a user, a plurality of temporally non-contiguous portions of a streaming media file received from a streaming media source in a cache file, each of the plurality of temporally non-contiguous portions being encoded at a different bit rate (see [0029]), wherein the act of storing comprises:
 - receiving a first video portion of the streaming media file encoded at a first bit rate (comprising the beginning of the file: see [0015]);
 - storing the first video portion (note that the system stores “any portions of the content object file that have been received”: see [0032]);
 - receiving a second video portion of the streaming media file encoded at a second bit rate (comprising a new portion which is at a changed encoding rate: see [0029]);
 - storing the second video portion (note that the system stores “any portions of the content object file that have been received”: see [0032]);

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- receiving a third video portion, the third video portion being temporally non-contiguous from the first video portion (see [0020] and decision blocks 424 and 428 in Fig. 4, and note that the user can request any number of video portions);
- storing the third portion (note that the system stores “any portions of the content object file that have been received”: see [0032]);

Thompson does not explicitly show:

- that the stored portions are stored in media cache video streams associated with their respective bit rates;
- that the third video portion is encoded at the first bit rate and stored in the media cache video stream associated with the first bit rate;
- receiving a first audio portion of the streaming media file;
- storing the first audio portion in a media cache audio stream; and
- storing the audio and video media cache streams in a cache file.

Pinckey shows:

- storing portions of video in a media cache stream associated with their respective bit rates (see Figs. 9-10 and [0055]);
- a video portion encoded at a bit rate being stored in a media cache video stream associated with the bit rate, along with another video portion which is encoded at that bit rate (see [0058] and file 106 in Fig. 10, and note that the portions 106a and 106b are stored in the same cache stream because they have the same bit rate);

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- receiving a first audio portion of a streaming media file (comprising an audio track: see [0055]);
- storing the first audio portion in a media cache audio stream (comprising the data structure which holds the audio track); and
- storing the audio and video media cache streams in a cache file (note that content files include the audio tracks: see [0055]).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Thompson to arrange received multimedia in media cache streams as taught by Pinckney in order to provide for efficient management of the cache space (see Pinckney, [0057]).

Regarding claim 22, the combination further shows: receiving a first video portion of the streaming media file encoded at a first bit rate; storing the first video portion in a media cache video stream associated with the first bit rate; receiving a second video portion of the streaming media file encoded at a second bit rate; storing the second video portion in a media cache video stream associated with the second bit rate; receiving a first audio portion of the streaming media file (i.e., an audio track); storing the first audio portion in a media cache audio stream; and storing the audio and video media cache streams in a cache file. See Pinckney, [0053]-[0058].

Regarding claim 24, the combination further shows storing each of the temporally non-contiguous portions in a unique media cache segment (see Pinckney, Fig. 10 and [0058]).

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Regarding claim 25, the combination further shows: storing each of the temporally non-contiguous portions in at least two byte cache segments (comprising the data structures which store portions 106a and 106b) and storing the byte cache segments in the cache file (see Fig. 10).

Regarding claim 36, Thompson shows a system comprising:

- means for receiving, for presentation to a user (comprising the device which runs content processing program 124), a plurality of temporally non-contiguous portions of a streaming media file (comprising segments of a content object file: see [0013]-[0015]), wherein temporally non-contiguous portions consist of portions of a received streaming media file that are not adjacent to one another in terms of the temporal presentation of their content during playback (comprising the multiple "discontinuous portions" selected for playback by the user: see [0020]); and at two of the temporally non-contiguous portions of the received streaming media file being encoded at different bit rates (see [0029]), wherein the first and second non-contiguous portions comprise video data (for example, MPEG video data: see [0021]); and
- means for associating and storing the plurality of temporally non-contiguous portions of the received streaming media file in a single cache file on the client device (comprising a buffer: see [0032]).

Thompson does not explicitly show:

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- a third non-contiguous portion comprising audio data (insofar as Thompson only shows various portions of “video” files, and does not explicitly indicate that the “video” files also include audio data);
- creating a plurality of media cache streams, each media cache stream being associated with a unique bit rate;
- storing the first non-contiguous portion in a media cache stream associated with the bit rate of the first non-contiguous portion;
- storing the second non-contiguous portion in a media cache stream associated with the bit rate of the second non-contiguous portion; and
- storing the media cache streams in the cache file.

Pinckney shows:

- that video files include audio data (see [0026], [0032], and [0062]);
- creating a plurality of media cache streams (comprising the data structures which hold the “shredded” content files), each media cache stream being associated with a unique bit rate (see Figs. 9-10 and [0055]);
- storing a first non-contiguous portion in a media cache stream associated with the bit rate of the portion (see [0055] and [0058]);
- storing a second non-contiguous portion in a media cache stream associated with the bit rate of the second non-contiguous portion (see [0055]-[0058]); and
- storing the media cache streams in a cache file (see [0058]).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Thompson to arrange received multimedia in media cache streams as

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taught by Pinckney in order to provide for efficient management of the cache space (see Pinckey, [0057]).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher Biagini whose telephone number is (571) 272-9743. The examiner can normally be reached on weekdays from 8:30 AM to 5:00 PM..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saleh Najjar can be reached on (571) 272-4006. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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